IN THE CLAIMS:

Please substitute the following claims for the same-numbered claims in the application:

1.   (Currently Amended) A method of performing, by a computerized system, self-diagnosis by automatically identifying anomalous situations during operations of [[a]] said computerized system, said method comprising:

recording, by said computerized system, actions performed by said computerized system during features of normal operations of said computerized system, said actions being stored in a history first file as features of said normal operations;

automatically creating, by said computerized system, [[a]] models for each of said features of said normal operations in said history file, wherein said each model comprises a mathematical statement indicating what that predicts a value of a corresponding feature based on equals in terms of relationships with all other features;

calculating, by said computerized system, anomaly scores of said features of said normal operations and storing said anomaly scores in a trained second file, wherein said anomaly scores are predictive of whether each of said features will be normal according to previously defined standards when one or more of the other features are abnormal according to previously defined standards;

establishing, by said computerized system, a threshold to evaluate whether events in live operations of said computerized system are anomalies as compared to said normal operations;

automatically identifying, by said computerized system, anomalous events in said live

operations based on said anomaly scores and on said threshold;

reporting, by said computerized system, said anomalous events; and

periodically repeating, by said computerized system, said calculating.

2.   (Currently Amended) The method in claim 1, ~~all the limitations of which are incorporated herein by reference,~~ wherein said creating comprises:

establishing relationships that exist between each of said features of said normal operations;

selecting a labeled feature from said features;

mathematically rearranging said relationships from the point of view of said labeled feature to create a solution for said labeled feature, wherein said solution comprises said model for said labeled feature;

selecting different features as said labeled feature and repeating said process of mathematically rearranging said relationships to produce solutions from the point of view of each remaining feature as models for the remaining features.

3.   (Canceled).

4.   (Currently Amended) The method in claim 2, ~~all the limitations of which are incorporated herein by reference,~~ wherein said normal operations comprise said features in said ~~history~~ first file at the time said models are created.

5.   (Currently Amended) The method in claim 1, ~~all the limitations of which are incorporated herein by reference,~~ wherein said calculating comprises:

predicting a likelihood that said each feature will be normal when one or more of the other features are abnormal, using said model of each of said features;

repeating said predicting using different presumptions about other features being normal and abnormal to produce said ~~trained~~ second file of a plurality of anomaly scores for each of said features.

6.   (Currently Amended) The method in claim 5, ~~all the limitations of which are incorporated herein by reference,~~ wherein said trained file provides one anomaly score for each of said features for each of a plurality of different possible abnormalities.

7.   (Currently Amended) The method in claim 5, ~~all the limitations of which are incorporated herein by reference,~~ wherein said automatically identifying comprises:

determining values of features for a given operation of said computerized system;

referring to said ~~trained~~ second file to retrieve an anomaly score for each of said features of said given operation;

comparing said anomaly score for each of said features of said given operation with said threshold to determine whether each anomaly score exceeds said threshold.

8.   (Currently Amended) A method of performing, by a computerized system, self-diagnosis by automatically identifying anomalous situations during operations of [[a]] said computerized

system, said method comprising:

recording, by said computerized system, actions performed by said computerized system during ~~features of~~ normal operations of said computerized system, said actions being stored in a ~~history~~ first file as features of said normal operations;

automatically creating, by said computerized system, [[a]] models for ~~each of~~ said features of said normal operations in said ~~history~~ first file, wherein each ~~said~~ model comprises a mathematical statement ~~indicating what~~ that predicts a value of a corresponding feature based on ~~equals in terms of~~ relationships with all other features;

calculating, by said computerized system, anomaly scores of said features of said normal operations and storing said anomaly scores in a ~~trained~~ second file, wherein said anomaly scores are predictive of whether each of said features will be normal according to previously defined standards when one or more of the other features are abnormal according to previously defined standards;

establishing, by said computerized system, a threshold to evaluate whether events in live operations of said computerized system are anomalies as compared to said normal operations;

automatically identifying, by said computerized system, anomalous events in said live operations based on said anomaly scores and on said threshold;

reporting, by said computerized system, said anomalous events; and

periodically repeating, by said computerized system, said calculating;

wherein said creating of said model for each of said features comprises:

establishing relationships that exist between each of said features for said normal operations;

selecting a labeled feature from said features;

mathematically rearranging said relationships from the point of view of said labeled feature to create a solution for said labeled feature, wherein said solution comprises said model for said labeled feature;

selecting different features as said labeled feature and repeating said process of mathematically rearranging said relationships to produce solutions from the point of view of each remaining feature as models for the remaining features.

9.   (Canceled).

10.   (Currently Amended) The method in claim 8, ~~all the limitations of which are incorporated herein by reference,~~ wherein said normal operations comprise said features in said ~~history~~ first file at the time said models are created.

11.   (Currently Amended) The method in claim 8, ~~all the limitations of which are incorporated herein by reference,~~ wherein said calculating comprises:

predicting a likelihood that each feature will be normal when one or more of the other features are abnormal, using said model of each of said features;

repeating said predicting using different presumptions about other features being normal and abnormal to produce said ~~trained~~ second file of a plurality of anomaly scores for each of said features.

12.   (Currently Amended) The method in claim 11, ~~all the limitations of which are incorporated herein by reference,~~ wherein said ~~trained~~ <u>second </u>file provides one anomaly score for each of said features for each of a plurality of different possible abnormalities.

13.   (Currently Amended) The method in claim 11, ~~all the limitations of which are incorporated herein by reference,~~ wherein said automatically identifying comprises:

determining values of features for a given operation of said computerized system;

referring to said ~~trained~~ <u>second </u>file to retrieve an anomaly score for each of said features of said given operation;

comparing said anomaly score for each of said features of said given operation with said threshold to determine whether each anomaly score exceeds said threshold.

14.   (Currently Amended) A method of <u>performing, by a computerized system, self-diagnosis by </u>automatically identifying anomalous situations during operations of [[a]] <u>said </u>computerized system, said method comprising:

recording<u>, by said computerized system, actions performed by said computerized system during </u>~~features of~~ normal operations of said computerized system<u>, said actions being stored </u>in a ~~history~~ <u>first </u>file <u>as features of said normal operations</u>;

automatically creating<u>, by said computerized system,</u> [[a]] model<u>s</u> ~~for each of~~ said features of said normal operations in said ~~history~~ <u>first </u>file, wherein ~~said~~ <u>each </u>model comprises a mathematical statement ~~indicating what~~ <u>that predicts a value of </u>a corresponding feature <u>based on </u>~~equals in terms of~~ relationships with all other features;

calculating, by said computerized system, anomaly scores of said features of said normal operations and storing said anomaly scores in a ~~trained~~ second file, wherein said anomaly scores are predictive of whether each of said features will be normal according to previously defined standards when one or more of the other features are abnormal according to previously defined standards;

establishing, by said computerized system, a threshold to evaluate whether events in live operations of said computerized system are anomalies as compared to said normal operations;

automatically identifying, by said computerized system, anomalous events in said live operations based on said anomaly scores and on said threshold;

reporting, by said computerized system, said anomalous events; and

periodically repeating, by said computerized system, said calculating;

wherein said calculating comprises:

predicting a likelihood that each feature will be normal when one or more of the other features are abnormal, using said model of each of said features;

repeating said predicting using different presumptions about other features being normal and abnormal to produce said ~~trained~~ second file of a plurality of anomaly scores for each of said features.

15.   (Currently Amended) The method in claim 14, ~~all the limitations of which are incorporated herein by reference,~~ wherein said creating comprises:

establishing relationships that exist between each of said features for said normal operations;

selecting a labeled feature from said features;

mathematically rearranging said relationships from the point of view of said labeled

feature to create a solution for said labeled feature, wherein said solution comprises said model

for said labeled feature;

selecting different features as said labeled feature and repeating said process of

mathematically rearranging said relationships to produce solutions from the point of view of

each remaining feature as models for the remaining features.

16.   (Canceled).

17.   (Currently Amended) The method in claim 15, ~~all the limitations of which are~~ ~~incorporated herein by reference,~~ wherein said normal operations comprise said features in said

<u>first</u> ~~history~~ file at the time said models are created.

18.   (Currently Amended) The method in claim 14, ~~all the limitations of which are~~ ~~incorporated herein by reference,~~ wherein said ~~trained~~ <u>second</u> file provides a one anomaly score

for each of said features for each of a plurality of different possible abnormalities.

19.   (Currently Amended) The method in claim 14, ~~all the limitations of which are~~ ~~incorporated herein by reference,~~ wherein said automatically identifying comprises:

determining values of features for a given operation of said computerized system;

referring to said ~~trained~~ <u>second</u> file to retrieve an anomaly score for each of said features

of said given operation;

comparing said anomaly score for each of said features of said given operation with said

threshold to determine whether each anomaly score exceeds said threshold.

20.   (Currently Amended) A program storage device readable by machine, tangibly

embodying a program of instructions executable by the machine to perform a method of

automatically identifying anomalous situations during operations of a computerized system, said

method comprising:

recording actions performed by said computerized system during ~~features~~ of normal

operations of said computerized system, said actions being stored in a ~~history~~ first file as features

of said normal operations;

automatically creating [[a]] models for said ~~each of said~~ features of said normal

operations in said first ~~history~~ file, wherein ~~said~~ each model comprises a mathematical statement

~~indicating what~~ that predicts a value of a corresponding feature based on ~~equals in terms of~~

relationships with all other features;

calculating anomaly scores of said features of said normal operations and storing said

anomaly scores in a ~~trained~~ second file, wherein said anomaly scores are predictive of whether

each of said features will be normal according to previously defined standards when one or more

of the other features are abnormal according to previously defined standards;

establishing a threshold to evaluate whether events in live operations of said

computerized system are anomalies as compared to said normal operations;

automatically identifying anomalous events in said live operations based on said anomaly

scores and on said threshold;

reporting said anomalous events; and

periodically repeating said calculating.

21. (Currently Amended) The program storage device in claim 20, ~~all the limitations of which are incorporated herein by reference,~~ wherein creating comprises:

establishing relationships that exist between each of said features for said normal ~~system~~ operations;

selecting a labeled feature from said features;

mathematically rearranging said relationships from the point of view of said labeled feature to create a solution for said labeled feature, wherein said solution comprises said model for said labeled feature;

selecting different features as said labeled feature and repeating said process of mathematically rearranging said relationships to produce solutions from the point of view of each remaining feature as models for the remaining features.

22. (Canceled).

23. (Currently Amended) The program storage device in claim 21, ~~all the limitations of which are incorporated herein by reference,~~ wherein said normal operations comprise said features in said history <u>first</u> file at the time said models are created.

24.   (Currently Amended) The program storage device in claim 20, ~~all the limitations of which are incorporated herein by reference,~~ wherein said calculating further comprises:

predicting a likelihood that each feature will be normal when one or more of the other features are abnormal, using said model of each of said features;

repeating said predicting using different presumptions about other features being normal and abnormal to produce said ~~trained~~ second file of a plurality of anomaly scores for each of said features.

25.   (Currently Amended) The program storage device in claim 24, ~~all the limitations of which are incorporated herein by reference,~~ wherein said ~~trained~~ second file provides one anomaly score for each of said features for each of a plurality of different possible abnormalities.

26.   (Currently Amended) The program storage device in claim 24, ~~all the limitations of which are incorporated herein by reference,~~ wherein said automatically identifying comprises:

determining values of features for a given operation of said computerized system;

referring to said ~~trained~~ second file to retrieve an anomaly score for each of said features of said given operation;

comparing said anomaly score for each of said features of said given operation with said threshold to determine whether each anomaly score exceeds said threshold.